## AMENDMENTS TO THE CLAIMS

With this Amendment After Final, claims 13-20, 22-28, 30, 42-62, and 64-87 are canceled, and new claims 88-122 are added. Claims 1-12, 21, 29, 31-41, and 63 were previously cancelled. As of this Amendment After Final, the status of the claims (claims 88-122) is as follows:

1.- 87. (Canceled)

88. (New) An isolated double-stranded DNA molecule having first and second nucleotide strands, the first nucleotide strand encoding a porcine leptin polypeptide and the second nucleotide strand hybridizing to the nucleotide sequence of SEQ ID NO:1, from nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to nucleotide base pair 3754 of SEQ ID NO:1, under stringent hybridization conditions.

89. (New) The isolated double-stranded DNA molecule of claim 88 wherein the first nucleotide strand exhibits identity with at least sixty (60) percent of corresponding nucleotide bases at positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

90. (New) The isolated double-stranded DNA molecule of claim 88 wherein the first nucleotide strand exhibits identity with at least eighty (80) percent of corresponding nucleotide bases at positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

91. (New) The isolated double-stranded DNA molecule of claim 88 wherein the first nucleotide strand exhibits identity with at least ninety (90) percent of corresponding nucleotide bases at positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

92. (New) The isolated double-stranded DNA molecule of claim 88 wherein the first nucleotide strand exhibits identity with at least ninety-five (95) percent of corresponding nucleotide bases at positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

93. (New) The isolated double-stranded DNA molecule of claim 88 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS, or (6) any of these in any combination.

94. (New) The isolated double-stranded DNA molecule of claim 88 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, and (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS,.

95. (New) The isolated double-stranded DNA molecule of claim 88 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, (4)

washing with a post-hybridization washing solution at a temperature of at least 60°C, or (5) any of these in any combination.

96. (New) The isolated double-stranded DNA molecule of claim 88 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, and (4) washing with a post-hybridization washing solution at a temperature of at least 60°C.

97. (New) An isolated double-stranded DNA molecule having first and second nucleotide strands that are each at least 24 nucleotides long, the entire length of the first nucleotide strand hybridizing under stringent hybridization conditions to a contiguous nucleotide sequence within the range of nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to nucleotide base pair 3754 of SEQ ID NO:1, the contiguous nucleotide sequence containing at least one of the corresponding nucleotide base positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, or 3750 of SEQ ID NO:1.

98. (New) The isolated double-stranded DNA molecule of claim 97 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS, or (6) any of these in any combination.

99. (New) The isolated double-stranded DNA molecule of claim 97 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4)

hybridization using a hybridization solution with a salmon sperm concentration of 100 *mg*/ml, and (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS,.

100. (New) The isolated double-stranded DNA molecule of claim 97 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, (4) washing with a post-hybridization washing solution at a temperature of at least 60°C, or (5) any of these in any combination.

101. (New) The isolated double-stranded DNA molecule of claim 97 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, and (4) washing with a post-hybridization washing solution at a temperature of at least 60°C.

102. (New) An isolated single-stranded DNA molecule having a single nucleotide strand that hybridizes under stringent hybridization conditions to the nucleotide sequence of SEQ ID NO:1, from nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to nucleotide base pair 3754 of SEQ ID NO:1, a complimentary RNA strand of the single-stranded DNA molecule encoding a leptin polypeptide.

103. (New) The isolated single-stranded DNA molecule of claim 102 wherein a complimentary RNA strand of the single-stranded DNA molecule exhibits identity with at least sixty (60) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

104. (New) The isolated single-stranded DNA molecule of claim 102 wherein a complimentary RNA strand of the single-stranded DNA molecule exhibits identity with at least eighty (80)

percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

105. (New) The isolated single-stranded DNA molecule of claim 102 wherein a complimentary RNA strand of the single-stranded DNA molecule exhibits identity with at least ninety (90) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

106. (New) The isolated single-stranded DNA molecule of claim 102 wherein a complimentary RNA strand of the single-stranded DNA molecule exhibits identity with at least ninety-five (95) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

107. (New) The isolated single-stranded DNA molecule of claim 102 wherein:

the single nucleotide strand is at least 24 nucleotides long;

the entire length of the single nucleotide strand hybridizes under stringent hybridization conditions to a contiguous nucleotide sequence within the base pair range from nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to nucleotide base pair 3754 of SEQ ID NO:1; and

the single nucleotide strand contains at least one corresponding nucleotide base selected from the positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

108. (New) The isolated single-stranded DNA molecule of claim 102 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS, or (6) any of these in any combination.

109. (New) The isolated single-stranded DNA molecule of claim 102 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, and (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS,.

110. (New) The isolated single-stranded DNA molecule of claim 102 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, (4) washing with a post-hybridization washing solution at a temperature of at least 60°C, or (5) any of these in any combination.

111. (New) The isolated single-stranded DNA molecule of claim 102 the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, and (4) washing with a post-hybridization washing solution at a temperature of at least 60°C.

112. (New) An isolated single-strand DNA molecule, a complimentary RNA strand of the single-stranded DNA molecule hybridizing under stringent hybridization conditions to the nucleotide sequence of SEQ ID NO:1, from nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to

nucleotide base pair 3754 of SEQ ID NO:1, the single-strand DNA molecule encoding a porcine leptin polypeptide.

113. (New) The isolated single-strand DNA molecule of claim 112 wherein the single-stranded DNA molecule exhibits identity with at least sixty (60) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

114. (New) The isolated single-strand DNA molecule of claim 112 wherein the single-stranded DNA molecule exhibits identity with at least eighty (80) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

115. (New) The isolated single-strand DNA molecule of claim 112 wherein the single-stranded DNA molecule exhibits identity with at least ninety (90) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

116. (New) The isolated single-strand DNA molecule of claim 112 wherein the single-stranded DNA molecule exhibits identity with at least ninety-five (95) percent of corresponding nucleotide bases selected from positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

117. (New) The isolated single-stranded DNA molecule of claim 112 wherein:

the single-stranded DNA molecule is at least 24 nucleotides long;

the entire length of the complimentary RNA strand hybridizes under stringent hybridization conditions to a contiguous nucleotide sequence within the base pair range from nucleotide base pair 942 of SEQ ID NO:1 to nucleotide base pair 1085 of SEQ ID NO:1 and nucleotide base pair 3400 of SEQ ID NO: 1 to nucleotide base pair 3754 of SEQ ID NO:1; and

the single-stranded DNA molecule contains at least one corresponding nucleotide base selected from the positions 950, 972, 995, 999, 1004, 1014, 1015, 1018, 1052, 1069, 1084, 3405, 3444, 3456, 3459, 3460, 3489, 3495, 3496, 3549, 3593, 3616, 3621, 3623, 3648, 3666, 3678, 3709, and 3750 of SEQ ID NO:1.

118. (New) The isolated single-stranded DNA molecule of claim 112 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS, or (6) any of these in any combination.

119. (New) The isolated single-stranded DNA molecule of claim 112 wherein the stringent hybridization conditions include (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 *m*g/ml, and (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS,.

120. (New) The isolated single-stranded DNA molecule of claim 112 wherein the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, (4)

washing with a post-hybridization washing solution at a temperature of at least 60°C, or (5) any of these in any combination.

121. (New) The isolated single-stranded DNA molecule of claim 112 the stringent hybridization conditions include (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, and (4) washing with a post-hybridization washing solution at a temperature of at least 60°C.

122. (New) An isolated protein of the formula of SEQ ID NO:1